The puzzle of virtual theft

Wildman, Nathan; McDonnell, Neil

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The Puzzle of Virtual Theft

N. Wildman & N. McDonnell

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How can you steal something that doesn't exist? This question confronts those of us who (i) take an *irrealist* view of virtual objects, and who (ii) agree with the Supreme Court of the Netherlands that *robbery* took place when two boys used non-virtual violence to coerce a third boy into relinquishing his virtual amulet and mask. Here, we outline this *Puzzle of Virtual Theft*, along with the closely related *Puzzle of Virtual Value*. After demonstrating how these puzzles are deeply problematic for the irrealist, we go on to sketch a solution that not only circumscribes the puzzles but also offers a framework by which legal scholars can make sense within existing legal codes of the new phenomenon of virtual theft.

The details of Supreme Court of the Netherlands case 10/00101 J are (sadly) all too mundane: in September 2007, two older boys assaulted and physically threated a third, younger boy, in an attempt to intimidate the latter into giving them his property. What makes the case interesting is the peculiar nature of this property: a magic amulet and an enchanted mask within the massive multiplayer online role-playing game RuneScape.[1] Specifically, under duress, the victim was forced to log into the game and "drop" the items, whereupon one of the perpetrators logged in and picked them up, thereby transferring exclusive control of the amulet and mask to his account. In this way, what occurred was a mixed-reality shake-down: the threat of real-world violence was used to extract virtual property from the victim.

The prosecution sought charges of theft accompanied by violence (i.e., robbery). Both assailants were initially convicted in lower court rulings. Appeals were then mounted. Much of the argument centred on the ontological status of the virtual items in question. The key issue was that if the amulet and mask were not 'real', then they could not be goods, and if they were not goods, then, per Article 310 of the Dutch Criminal Code, they could not be the objects of theft. So, prosecutors and defenders debated whether the objects in question were mere 'bits and bytes' (*Runescape Judgment* §3.4, our translation), 'tangible' (*Runescape Judgement* §2.3; our translation), or were 'purely imaginary' (Wolswijk 2012: 461).

In the end, the court determined that the virtual objects under consideration had demonstrable value to the parties in the case, and therefore had value simpliciter. Consequently, in 2012, the Supreme Court of the Netherlands upheld the conviction and dismissed the appeals, declaring that 'virtual items can be regarded as goods and can therefore be the subjects of such property offences' (Wolswijk 2012: 460).

As well as being exciting for legal theorists and philosophers of law, this case is directly relevant to on-going debates in metaphysics and aesthetics concerning the ontology of virtual reality.[2] In particular, *virtual realists* claim that virtual objects are 'real' – i.e., they genuinely exist – and virtual events genuinely occur.[3] Meanwhile, *virtual irrealists* hold that virtual objects are not 'real' (i.e., they don't exist), and events that take place in virtual reality do not genuinely occur.[4]

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[1] In RuneScape, players control avatars in a virtual world, and use virtual spells and weapons to fight and quest their way to game success. This success takes the form of achieving experience points, skill levels, and items. Possessing certain items in the game can help players achieve in-game success, attract kudos from fellow-gamers, or be traded (including beyond the game, for hard currency).

[2] The case concerns a more traditional video game, which might suggest that it falls outwith the scope of some more restrictive realist positions. For the present dialectic, this is irrelevant. We are here concerned with a prima facie problem for irrealism, which we characterise as committed to the non-existence of virtual objects, no matter the medium. What exactly different flavours of realism say about the case is not our concern, beyond the fact that *some* realist option appears to have a better prima facie position than anti-realism. And, for what it is worth, we think that it is just a matter of time before an equivalent case arises in relation to a pure VR setting.

[3] This is a simplification of realism. For example, Chalmers (2017) defends a version of realism that associates each virtual object with a digital object – the bits and bytes physically encoded in a silicon chip of a computer. Roughly, his position is that these digital objects are uncontroversially real, and virtual objects are either identical to them, or stand in some weaker, 'more subtle' dependence relation (2017: 317), ensuring that they are also real. Thus Chalmers is a realist about both digital and virtual objects. In contrast, the anti-realist position we sketch is realist about digital

The court's ruling generates a puzzle for irrealists. Put bluntly, how can you steal something that does not exist? Sharpening this into an objection, we can say that:

(1) Only existent things can be stolen.
(2) Virtual objects can be stolen.
(3) Therefore, virtual objects exist.

The argument is clearly valid, and the conclusion is (obviously) incompatible with irrealism. Further, (1) is *prima facie* true: plausibly, *steals* is a non-intentional relation, and existing is a necessary condition for standing in a non-intentional relation. Finally, (2) comports with the findings of the court, and hence is supported by legal practice. Thus, the *puzzle of virtual theft* confronts the irrealist.

The court's line of reasoning also raises a second, related puzzle concerning how a virtual thing can be valuable:

(4) Only existent things can be valuable.
(5) Virtual objects can be valuable.
(6) Therefore, virtual objects exist.

As before, this argument is valid and the conclusion incompatible with irrealism. Similarly, (4) is *prima facie* plausible, while (5) is a direct consequence of the court's ruling. Thus the *puzzle of virtual value* also confronts the irrealist.

Would-be irrealists must find solutions to these puzzles. One option is to deny that the relevant relations are existence entailing; e.g., citing the intentional status of property relations, one could argue that stealing is not a non-intentional relation, while an appeal to the apparent value of imaginary friends would seem to motivate the thought that valuing (in the relevant sense) isn't existence entailing either. This would allow the irrealist to reject (1) and (4). For our part, we suspect that these premises are likely true. Moreover, we think there is a solution to the puzzles that does not require rejecting these premises. So, we will grant (1) and (4) for the sake of argument.

We are led, then, to reject (2) and (5). There are (roughly) two ways that irrealists might go about undercutting these premises. The flatfooted strategy argues that the court's ruling is simply wrong; as the relevant virtual objects do not exist, they are neither potentially valuable nor were they in fact stolen.[5] Alternatively, the conciliatory strategy accepts the ruling, but contends that it does not provide support for (2)/(5).

Here, we offer a version of the conciliatory strategy. Specifically, we contend that, though there was indeed an instance of robbery, the goods that were stolen were not the virtual objects. In this way, the court reached the right conclusion, but about the wrong objects.

1. The Parable of the Pawn

Before turning to our solution, it is worth briefly discussing an analogy from the analogue gaming world of chess:: are *pawns* real? Sharpening the question, consider the pawn *figurine*, and the *in-game* pawn. The former is made of wood, has a certain weight, has a spatio-temporal location, etc. The latter, meanwhile, has highly restricted movement abilities, can metamorphose into a queen when it reaches the other end of the board, and can only vanquish its opponents by moving diagonally. None of these features are obvious properties of the figurine. To interrogate

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objects, but denies the existence of virtual objects. For critical discussion of Chalmers' position, see e.g. Beisbart 2019 and McDonnell & Wildman 2019.

[4] Again, this is a simplification of irrealism. See e.g. McDonnell & Wildman 2019 for further discussion.

[5] Of course, no one will deny the reality of the (threats of) violence committed by the perpetrators.

the relationship between the figurine and the game-object, consider three distinct modes of chess playing:

Standard Chess	Correspondence Chess	Blindfold Chess
There is one chessboard, with thirty-two figurines. Each game-object is represented by *one* figurine.	There are two distinct chessboards, each with its own set of thirty-two figurines (so, sixty-four in total). Each game-object is represented by *two* distinct figurines, one on each board.	There is no chessboard, and there are no figurines. The game is played by communicating moves via algebraic notation. Each game-object is represented by *zero* figurines.

Standard chess makes it tempting to *identify* the game-object with the physical figurine, since there is a one-to-one relationship between them. Correspondence chess shows that this identification is a mistake: the same game-object is associated with two distinct physical figurines, so the former cannot be identical to the figurines.[6] A relation weaker than identity is required. Suppose it is some form of *dependence* relation, where the game-object *depends* on the physical figurine(s). Blindfold chess, where a single game-object corresponds to no physical figurines, shows that this is also mistaken. And the details here don't matter: replace dependence with constitution, grounding, etc. – the result is the same.

What then should we say about how the figurine and the game object relate? Here's a plausible answer: strictly speaking, there is no relationship. This is because, strictly speaking, while the figurine clearly exists – after all, it is made of wood, has a certain weight, has a spatio-temporal location, etc. – the game-object does not. Instead, it is merely an object of our imagination. This neatly explains the above difficulties: the game-object does not exist, and hence does not (and *cannot*) stand in a genuine relation with the figurine.

The closest there is to anything like a "relation" is that the figurine is a tool that can help us imagine things about the game-object. For example, using the figurine, together with (say) other figurines and a 64-square board can greatly facilitate the relevant imaginative exercise. Further, absent the figurine, you may struggle to remember the (imaginary) location of the game-object, and your performance may suffer as a result.

Keeping this in mind, suppose you are sitting down to play chess. Just before the game starts, someone runs up to the table, grabs one of the pawn figurines from the board, and darts away. In this scenario, it is natural to say that someone 'stole your pawn'. But is it true that they 'stole your pawn'? In one sense, yes: the physician figurine, which exists, has been taken. In another sense, no: the game-object was not and cannot be stolen, *because it does not exist*. Moreover, if we're talking loosely, it is easy to mistakenly think that the referent of 'pawn' used in describing the scenario denotes the game-object. But that is a mistake, because there simply is no such thing in reality.

2. Solving the Puzzles

The view sketched in the previous section is an irrealist treatment that takes the game-object to be a *fictional* object, which is, at least sometimes, associated with a physical representation – i.e., the figurine. More specifically, it is a version of Waltonian Fictionalism. The foundation of Walton's account is a general view about representational artwork. According to Walton, our engagement with representational artworks involves playing games of make-believe. These games are guided and (partially) determined by two related elements: *props*, items whose existence and features are used to guide and determine the contents of these games, and *principles of generation*,

[6] Objection: why not say there are two game-objects, each identical to their respective figurine? Reply: Suppose Ben and Jason are playing a game of correspondence chess with each other. If we follow the line in this objection, it is hard to see how this could be possible – at best, they are playing distinct, albeit similar, games.

which prescribe what it is we are to make-believe (often by reference to relevant features of the props, though they need not do so). For example, we might go into the forest and play a game of make-believe whereby tree stumps are taken to be bears. Here, the props are ourselves and the various tree stumps we come across, with features like the stump's real size and physical location determining things that we are prescribed to imagine (e.g., the size/location of specific bears). And this game will be regulated by principles of generation like, 'if you see a tree stump, then you are prescribed to imagine that there is a bear where the stump is'.[7]

In the pawn case, the rules of chess serve as principles of generation, while the various figurines (and the board) serve as props. Further, as the possibility of blindfold chess indicates, these props are merely helpful in playing the game, rather than strictly necessary.

The Waltonian approach also readily applies in the case of virtual reality. The relevant props are digital objects – bits and bytes physically encoded in a silicon chip of a computer – as well as screen images, sounds, haptic feedback, etc. These, together with relevant principles of generation, help us play games of make-believe where we move through virtual worlds.

Armed with the Waltonian apparatus, we can explain both the Court's conclusion, and provide explanation and justification for their reasoning.

First, the objects that were stolen are certainly digital objects (the 'bits and bytes' encoded on the silicone chip). These were broadly physical objects, and so there is no puzzle as to their existence. Utilising the mechanics of the programme *RuneScape*, the thieves gained and established exclusive access to these digital objects. In this way, domain and control over this digital object was removed from the victim unlawfully (which is theft), and this process was aided by the use of violent coercion, (which makes it robbery).[8]

The court did not assert that a digital object was stolen, however, but rather referred to the game objects – the mask and the amulet – directly. Of course, as with "pawn" there is likely some ambiguity of reference between two objects under consideration: the digital object and the virtual object. We do not think this explains the court's determination, however. We think that they were simply mistaken about the ontological status of the objects in question, as much of their explicit reasoning demonstrates. With fictionalist resources we can see the underlying confusion in these questions: the prop is mere bits and bytes, is tangible, and is not imaginary; the game-object is not mere bits and bytes, is not tangible, and is imaginary.

Recall also that the court did not reach a direct determination on the reality of the objects in question – we can surmise that they were indeed puzzled by the ontological issue – but rather reasoned indirectly via the issue of value. Since the objects were demonstrably of value to the assailants and the victim, then they were goods.

Again, the Waltonian apparatus can help us understand this reasoning. What was of value was the game experience, just like playing a game of chess, or reading a book can be a valuable experience. The value of the experience does not entail the independent value of the fictional characters in the story, or the fictional game pawn, and nor does it entail the value of virtual masks or amulets. The value of the experience may causally hinge on the prop for those fictional objects, however, if they are essential to the game of make believe – just like the loss of the figurine could be essential to your ability to play chess, if blindfold chess is beyond you. As such, the valuable experience of enjoying the story, of playing chess, or advancing in *RuneScape* may be mediated by access to the physical prop that supports the imaginative enterprise. Depriving

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[7] For further discussion of the general Waltonian approach, see e.g. Walton (1990) and Woodward (2014); for more on video games/VR as Waltonian games of make-believe, see e.g. Tavinor (2009), Wildman & Woodward (2018), and McDonnell & Wildman (2019).

[8] Objection: 'bits and bytes' can't be stolen unless the chip they are on is also stolen. Reply: take any case where a hacker remotely accesses your computer, copies some of your personal files, and then wipes your hard-drive. The hacker has stolen your data – i.e. has unlawfully taken exclusive domain and control over your digital objects (your files) – but done so without stealing any of your computer's hardware.

someone of the prop deprives them of something of greater value than the material value of that object in isolation: namely, the make-believe experience that the prop is necessary for.

So, we think that the court reasoned correctly from the evident value at stake, to the presence of some good. We think they made a mistake about what that good was, however. The good in question was the prop – an uncontroversial physical object – and not the virtual object. Thus, the puzzles are solved.[9]

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